



## Soccer

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### About Soccer

Soccer (also known as football internationally) is a team-based sport played in two 45-minute halves with 10 players on the field and one player in the goals at any one time, with a short break at half-time.

In a typical match, soccer players at elite level can cover up to 10-11 kilometres, sprint for about 800-1200 metres, accelerate 40-60 times, and change direction every five seconds, making soccer players use both aerobic and anaerobic energy systems in play.

During a game lasting 90 minutes, the alternating fast and slow running patterns can easily deplete a players' leg-muscle fuel stores (glycogen). Studies show that professional players spend over two-thirds of a typical match at 85 per cent of maximal heart rate and can deplete up to 90% of their muscle glycogen during a match – which is more than enough to cause fatigue and dramatically reduce running speeds.

Soccer players must be skilled, agile and fast on their feet, and while soccer players come in various shapes and sizes, low body fat levels are desirable for speed and agility.

### Training diet

Training is physically demanding, which sets up large energy, carbohydrate and fluid requirements. A diet rich in carbohydrate foods is important to provide adequate energy to maintain a high standard of play and also assists recovery.

Soccer is a professional sport, but some players have full-time jobs or study to commit to, on top of training

and match schedules. This creates a very busy lifestyle, and good nutrition habits can take a back seat, especially if the athlete lacks the skills to shop and cook. Takeaways can be a trap, but learning how to choose better takeaways, reading food labels and learning how to cook and prepare ahead can make a difference both on and off the field by aiding recovery and reduce fatigue.

On average, soccer players will require 5-8 grams per kilogram of body weight per day to fuel training and fitness sessions as well as preparation for games, making carbohydrate foods such as bread, breakfast cereal, fruit, pasta, rice, vegetables, yoghurt and flavoured low-fat milk the focus of meals and snacks. Players who fail to meet these carbohydrate requirements may suffer mid-week slumps and progressive fatigue over the season. Players in heavy training need to focus on recovery nutrition tactics immediately after each training session. Players should aim to have 50-100 grams of carbohydrate within 30 minutes of finishing training. Fluids should also be a part of any recovery snack.

#### What does 50 g of carbohydrate look like?

- 800ml sports drink
- 3 medium pieces fruit
- 1 large bread roll or fruit scone
- 2 pancakes with maple syrup
- 2 cereal/muesli bars
- 2 x 200 g cartons yoghurt (not artificially sweetened)
- 4 Weet-bix® with 1 cup low fat milk
- 1½ cups fruit salad with 1 tub of low fat yoghurt
- 250-350ml smoothie
- 3 slices toast with vegemite/honey/jam

### Body fat levels

Body fat levels can creep up in the off-season period, but this can be managed by an awareness of eating in the off-season (decreasing amount of food) or by increasing exercise in this period e.g. fitness training or playing another sport.

## Fluid needs

The fluid needs of soccer players during training and games are generally high because of the high intensity "stop and go" style of the game. Opportunities to drink during matches can be limited so aim to optimise fluid intakes during formal and informal breaks in play e.g. stoppage and injury time. Drinks containing carbohydrate (e.g. sports drinks) will assist with replacing energy stores. Fluids containing caffeine (such as coffee or cola drinks) and alcohol are not suitable for recovery since they lead to increased urine losses.

A player can assess how much fluid they have lost by weighing themselves before and after the training session or game and aim to drink **1.5L of fluid for every kilogram** of weight lost.

Thirst is generally not a good measure of fluid status and a player may be significantly dehydrated before becoming thirsty. Sports drinks can be useful during training and matches as they provide a source of carbohydrate (for fuelling on the field) and small amounts of electrolytes (salts) that may be lost during play. Producing regular amounts of clear urine is a useful indicator of good hydration status before exercise.

Dehydration negatively affects exercise ability, skill execution and decision making and thus can significantly affect soccer performance.

In hot conditions, pay extra attention to fluid needs by having plenty of cool, refreshing fluids on hand, drinking at every opportunity (e.g. during breaks and when coming off the field) and monitoring and replacing losses aggressively after a match/training session.

## What should I eat before a game?

The pre-game meal should be eaten **3-4 hours prior to play**. It should be high in carbohydrate and low in fat. To avoid stomach discomfort, foods low in fibre and fat may be preferred. It is important to ensure the meal is well planned and uses familiar foods and fluids. (See below)

Follow this up with high-carbohydrate, low-fat snacks leading up to a match, such as a jam sandwich, muesli bar or fruit to top up fuel stores before the match.

**3-4 hrs before:** Pasta with a low-fat tomato sauce  
+ 400ml fruit juice

**2 hrs before:** 200g low fat yoghurt + mini box sultanas (40g)

**1 hr before:** 500 ml sports drink

## What should I eat and drink during competition?

Although the half-time break is brief, it is the best opportunity for nutrition during play, and players should make use of this break to consume fluids. Midfielders will benefit most from drinking sports drink during the break as they tend to have the greatest requirements for carbohydrate and fluid during a game. Lollies, fruit and carbohydrate gels can be good sources of carbohydrate, but sports drink provides *fluid* along with carbohydrate, which is ideal when rehydration is the main priority at half time.

## What about recovery?

It is important to refuel with carbohydrate-rich foods after training and games in order to begin replenishing muscle glycogen stores for future training/games. This is especially important to bounce back after a game and during weeks of heavy training.

It is also important to include a lean protein source in recovery for muscle tissue repair and growth.

As a rule of thumb, aim to **consume a recovery snack within 30 minutes** of finishing a training session or match. This snack should contain carbohydrates, protein and a source of fluid, e.g. a salad sandwich with a bottle of sports drink, or a bowl of cereal with fruit and milk. Other suitable snacks include cereal/muesli bars, fruit and fruit bars and sports drinks.

The next meal should resume the normal training eating pattern, and should again contain carbohydrate-rich foods, a source of protein and fluids. Players should try to consume this meal within 3-4 hours of finishing a match/training.

## Other nutrition tips

- Supplements are generally not necessary. A balanced healthy diet will usually meet all of the nutritional requirements for soccer
- Be well prepared - don't rely on food being available or suitable at the venue you are playing at
- Liquid meal replacements such as Sustagen Sport® may, however be useful/convenient
- Fluid requirements can be very high where games are played in hot-humid climates late in the season, or if playing interstate or overseas where climates are warmer and more humid.

- Alcohol is part of the social culture of many team sports. Ideally, an athlete should rehydrate and refuel before having an alcoholic beverage, if at all.

### Case study

Matt is a 16 year old junior soccer player who trains twice weekly, which is after school for 1½ to 2 hours. He plays one game on weekends. Matt is a 'running player' as he plays on the wing. He runs five mornings a week for 30 minutes and plays hockey and football at school. A sample meal plan for Matt might look like this:

**Breakfast:** Large bowl cereal (e.g. Sport Plus™) + banana + yoghurt + 2pc toast with baked beans

**Snack:** pc fruit + vegemite sandwich

**Lunch:** 1 bread roll OR 2 sandwiches with chicken/ham & salad; 1 muffin or scone + 1 fresh fruit &/or yoghurt

**Snack:** Jacket potato & salsa + cheese OR noodles

**Dinner:** Spaghetti Bolognese OR grilled steak + jacket potato and corn-on-the-cob; salad + fresh bread + yoghurt or custard with fresh or canned fruit

**Snack:** breakfast cereal & milk or toast and honey

**Extras:** Sustagen Sport®, breakfast bar, fruit (post-game and training)

N.B. Energy needs will vary with player position and growth. As Matt is a 'running player' and involved in a lot of sport at school his energy and carbohydrate needs will be high. He will also require extra energy, protein and calcium if he's still growing. Calcium is particularly important just before and during the time bones are growing.

## How do I get involved?

Click on the link to find out how to get involved in the game <http://www.footballaustralia.com.au/>

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